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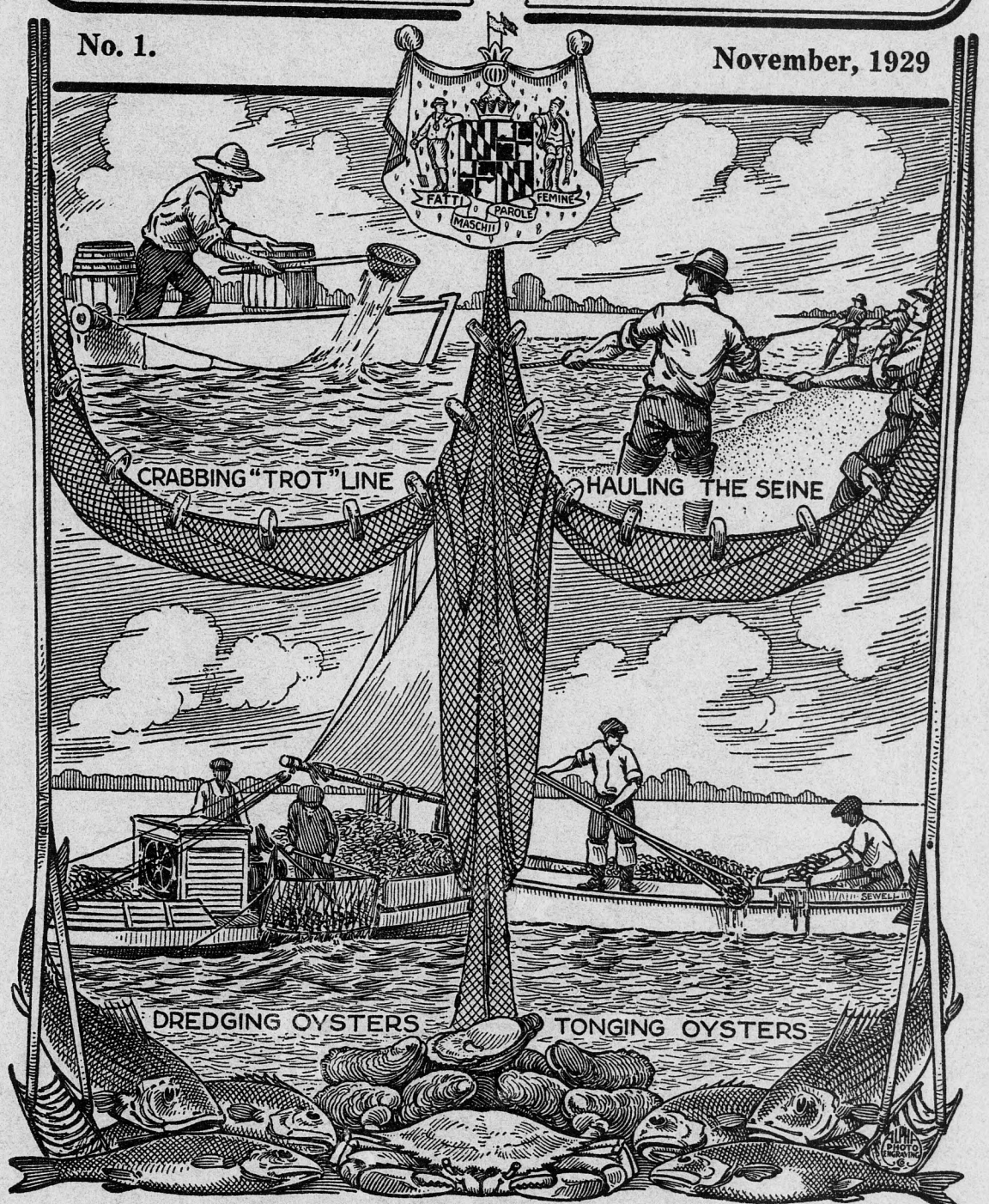
MARYLAND FISHERIES

Published by

CONSERVATION DEPARTMENT OF MARYLAND

No. 1. November, 1929



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INTRODUCING

MARYLAND FISHERIES, a new publication which is to be issued bi-monthly, hereafter, by the Conservation Department.

The department feels that a magazine of this character is much needed to disseminate knowledge and information about oysters, fish, and crabs to those engaged in the sea-food business of Chesapeake Bay, as well as persons interested in the fresh-water fishes of Western Maryland.

This magazine will be devoted to the subject of Maryland's aquatic life just as the *Maryland Conservationist* is devoted to game and wildlife, and the department feels that these two publications will cover the field of conservation work in the State and stimulate greater interest therein.

The Conservation Department is always glad to hear from those engaged in the fishery industries, and comments or criticism on any phase of our work will receive careful consideration.

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OYSTER FARMING IN MARYLAND

NOT SO LONG AGO, OYSTERS were so plentiful on the natural beds of Maryland that private planters could not compete. Invention of gasoline and consequent machinery have changed all this. The ingenuity of man has surpassed the productivity of nature, so far as the oyster is concerned, and today, where machinery has been permitted to operate, we find all the rocks in a sadly depleted condition. Thus the planting of oysters, once a losing game, has become one of the best money makers in the State.

Packers and watermen, generally, have been slow to recognize conditions as they are, but the past two years have witnessed a gradual increase in the number of those engaged in oyster farming. Every tributary on both Eastern and Western Shores has its oyster culturists, the one exception is Honga River.

This year nearly one hundred residents of Hoopers Island petitioned the department to establish a planting area in that river. Back in 1914 the feeling against private planting was so strong that the authorities then in power saw fit to declare the whole of Honga River from bank to bank a natural bed or bar. Consequently there was nothing left on which to lay overboard even the surplus oysters when the market was off. So while other communities have gone forward in oyster production, residents of Hoopers Island have been compelled to employ the same methods their ancestors did. There is still an element on Hoopers Island that is fighting the would-be culturists, and the whole matter has been thrown into the local courts for adjudication.

The season for making surveys of oyster lots is now about over. We generally begin to do this work about the first of March and continue until about the first of November. The number of surveys during the year has been about the same as the year previous. Undoubtedly there would have been many more lots to survey had not the freshets of 1928 killed the seed stock at the head of the Bay.

Somerset County takes the lead in acres under cultivation. There are two reasons for this. One is that because of the greater salinity of her waters a much better oyster can be grown there. By the same token, a greater demand for salt-water oysters has caused her rocks to become so depleted that Somerset could not carry on the oyster business were it not for private planting. The

dredgers, the men who produce the most oysters, are, in the main, residents of Somerset County and were at one time so violently opposed to oyster culture that it was not even safe to make a speech in their community advocating oyster culture. Now, these men have taken up ground in their own names and are seeding it themselves. Nearly every tonger has an oyster lot, too, and when prices are low he puts his oysters overboard and waits for a good market. This is as it should be. One cannot expect to make watermen out of farmers, or vice versa. The men to raise oysters are the watermen, and, if the oyster is to be kept on the market, they are the ones that have to do it. Therefore, every effort should be made to help the watermen to perpetuate the industry.

Next in importance from an oyster-cultural standpoint comes Wicomico County. Practically every waterman there, both white and colored, has his private oyster lot. The result is reflected in the kind of homes these men are able to maintain. Then comes Dorchester. Dorchester citizens have been rather slow to join in the planting game, but they are gradually coming to it. Due to the restrictions caused by the extremists, as already cited, opportunity is lacking.

Talbot, Queen Anne's, and Kent Counties have large tonging areas and these have been better protected than the dredging rocks of the lower Eastern Shore. Oyster culture has had less reason to advance in these counties; however, a few surveys are made in these waters each year.

Passing to the Western Shore, the Counties of Anne Arundel and Calvert are engaged extensively in cultivating oysters. In West, Rhode, and South Rivers a number of lots are surveyed each year. Down on the Patuxent, practically every available site has been utilized for the planting of oysters. St. Mary's Countians plant oysters, too, especially on the Patuxent, but in the tributaries of the Potomac there is still a strong sentiment against planting. However, each year the department surveys a few lots and this year has been no exception.

Oyster farming is essential in order that the State may maintain even its present production, and, if we expect to increase our oyster output to a greater extent, oyster farming must be carried on on a still larger scale. The rehabilitation of the depleted oyster bars by shell planting will, of course, aid in the perpetuation of the natural rock area of Maryland. The depletion of the State's oyster supply has gone at such a rapid rate that the department feels encouraged to be able to stem it by reshelling the depleted bars.

THE OYSTER OUTLOOK

THE CONSERVATION DEPARTMENT, following the directions of the Legislature of 1927 and carrying out a campaign of shell planting on the depleted oyster bars of the State, has done exceptionally well during the past summer. Shells planted during the spring and summer of 1929 amounted to around 700,000 bushels, making a total for the past two years of 1,200,000 bushels of shells placed on the oyster bottoms of the Bay and tributaries.

At the beginning of the oyster season, September 1, the oyster outlook in Maryland was very unfavorable. The spawning season was very late, and oysters in many localities were thin and in an otherwise poor condition, and there was no evidence of young growth.

Professor R. V. Truitt, who has had charge of the temporary laboratory of the department at Solomons Island for a number of years, reported that spawning occurred the latter part of August and the first of September. Reports from Delaware and the upper Atlantic Coast indicate that oysters spawned late in those localities also.

A recent investigation by the department, including the members of the Advisory Committee, showed a marked improvement in the upper-Bay dredging bars. Especially was this noted on Love Point and Sandy Point, and reports coming in from day to day from the Deputy Commanders of the State Patrol Fleet in various districts indicate heavy catches of spat in the St. Mary's River and other tributaries of the Potomac, in Pocomoke Sound, Great Choptank, Little Choptank, Honga, and Patuxent Rivers and other tributary waters of the Bay.

Shells planted under the direction of Dr. Truitt in Tar Bay, on an investigation made in August, showed a very disappointing catch of spat. The same shells inspected around the end of October showed a number of spat on more than ninety per cent. of the shells planted, and the young growth appeared to be in a flourishing condition. It is believed that as the season advances more spat will be observed in localities where shells have been planted.

The demand for oysters started off briskly, and it is believed that it will increase and naturally outstrip the supply before Christmas.

The Conservation Commissioner will visit Potomac River during the middle of November to survey the dredging rocks, in order that he may be better posted when he visits the Virginia Legislature in January to take up with that body the question of rehabilitating the oyster rocks, which the survey made by the Bureau of Fisheries last November indicated was necessary to maintain the oyster industry of this river.

CRABS

THE CRAB SEASON, which closed November 1 in Maryland, has been the most satisfactory one in point of supply and money for a number of years. The season started off the first of May with the bottoms well supplied with crabs which had hibernated in Maryland waters during the previous winter. Early in the season soft crabs became plentiful and the market in Baltimore was well stocked, with prices reasonable. During the month of July, soft crabs became very scarce, while hard crabs were plentiful. The department was interested in knowing why the quantity of soft crabs had diminished, and it is believed this was due to the scarcity of grass which is usually found in such quantities around the shores which the soft crab and shedder crab frequent. Reports in a number of districts of Maryland indicated that the grass died off during the early summer and acres of it were seen floating out with the tide. This caused the peeler crabs to seek deep water for shedding, and here they were protected from the scrapes of the crabber, which accounted for the abundance of hard crabs and the scarcity of the soft ones.

Crisfield claims to have shipped during the past summer 60,000,000 soft crabs, while Smith's Island has closed a banner year for this shell-fish. The Honga River watermen around Hoopersville and Fishing Creek have also had a profitable summer. The crab crop this year was a godsend to these people, as they had a most unsatisfactory oyster season in 1928.

The supply of small crabs on the bottoms within the waters of Maryland at the close of the season promises a goodly number for next year and convinces the Conservation Department that the legislation passed in Virginia in 1926 to protect the female crab bearing the egg-sponge has done effective work to bring back a supply of crabs in the upper Bay.

The migration of crabs in 1929 has been higher up the Bay than for the past twenty years. Crabs were reported as far up as Chesapeake City, where they had never been known to exist before. Not only has the crab supply been adequate for the packers and sea-food dealers throughout the country, but thousands of tourists coming to Maryland have enjoyed the sport of crabbing from bridges, wharves, and boats, taking away with them many bushels of crabs for home "crab feasts".

The Sea Food Auditor of this department will shortly complete the statistics covering crab shipments in Maryland, and this will appear in the next issue of MARYLAND FISHERIES.

THE MARINE LABORATORY

THE CONSERVATION COMMISSIONER recommended to Governor Ritchie, when he was preparing the Budget before the meeting of the last Legislature, that a marine laboratory to be established in tide-water Maryland be provided for, in order that the sea-food resources of the State might be studied, with a view to increasing their production.

The Legislature appropriated $10,000 in 1929 for the purchase of a site and the building of a laboratory, and $5,000 in 1930 for the maintenance of same.

While the amount of money appropriated is a very small sum for a laboratory which will play an important part in the development of the sea-food industry of the Chesapeake, nevertheless it is a start in the right direction, and the Commissioner, in cöoperation with Professor R. V. Truitt, of the University of Maryland (acting biologist of the department), and Mr. J. T. Fiedler, of the U. S. Bureau of Fisheries, investigated several sites which are now under consideration. The places inspected were Solomons Island, Crisfield, and Cambridge. In both Dorchester and Somerset Counties, locations have been offered free of charge for the laboratory, and several acres of land have also been offered by Mr. Alfred I. DuPont at his place on Cherry Island, Little Choptank River.

In the establishment of a marine laboratory, several factors have to be taken into consideration, such as the salinity and purity of the water, gas, electricity, etc. The department feels that the centers of sea-food production and activity should have careful consideration. The Rotary Clubs of both Cambridge and Crisfield have been most cordial and cöoperative in doing their part to have the laboratory established within their county boundaries. It is not likely, however, that a selection will be made before the first of the year.

REPORT ON COMMERCIAL FISH HATCHERIES—1929

THE STATE FISH-HATCHERY OPERATIONS for the season of 1929, in connection with the salt-water or commercial varieties of fish, were extremely satisfactory. Large increases were reported in all varieties except shad. The run of shad last spring was smaller than the preceding year, when a heavy storm played havoc with the fishermen's nets and permitted large quantities of fish to escape to the spawning grounds. The output of shad fry from the Eastern Shore stations this spring, however, exceeded the work of a number of seasons previous to 1928.

The following tabulation shows the results of this work for 1929:

Location	Yellow Perch Fry Liberated	White Perch Fry Liberated	Herring Fry Liberated	Shad Fry Liberated
Denton	32,310,000	7,680,000	--------	2,797,200
Rock Hall	225,000,000	--------	--------	--------
Crumpton	46,170,000	30,720,000	17,280,000	1,008,000
Millington	32,400,000	--------	--------	1,260,000
Charlestown	--------	--------	--------	3,811,200
Principio	5,670,000	--------	--------	3,091,200
Aberdeen	26,370,000	34,560,000	17,280,000	--------
Millersville	401,520,000	--------	--------	--------
Totals	769,440,000	72,960,000	34,560,000	11,967,600

EXPERIMENTAL SEED AREAS

It is generally recognized that the most outstanding single need for work in oyster conservation in Maryland is the production of seed oysters. It is well known that oysters will grow and, in fact, flourish on many of the bottoms now available under lease. However, these same bottoms cannot be made productive unless a seed supply is available. To that end, the department's scientific work has been directed during the past season.

Dr. R. V. Truitt, who for a number of years has had charge of the biological work for the department, has, in his several annual reports, pointed out that the Hoopers Island vicinity, especially in the Honga River and Tar Bay regions, has the vastest supply of oyster spawn found anywhere in tide-water Maryland. His reports also have shown that these areas are decidedly non-productive in a commercial way. During the past year, his efforts have been directed toward determining the availability of the areas in question for the purposes of establishing seed beds. The department set aside some 1,500 bushels of shells to be used experimentally in this work, all of which were put overboard with results that have been highly satisfactory. While the report on this scientific work has not been made, due to the fact that not all of the shells have been taken up and oyster-seed counts made, sufficient data are available to show unusual conditions and possibilities in these waters.

In Tar Bay the shells were placed in improvised wire baskets containing one bushel each and in close proximity to each other. In the upper Honga River, sections of one-eighth of an acre each were marked off by the surveyor, and, upon these, shells were placed in varying quantities ranging from 1,000 bushels to an acre to 3,000 bushels to an acre. From the wire baskets an average of approximately 1,200 oysters per bushel of shells has been realized, while in Tar Bay the average has run up to nearly three oysters per shell taken up by tonging.

While sound policies of conservation cannot be formulated from a single experiment, and especially since this year witnessed very little seaweed growth, a common pest in the Hoopers Island section, the results obtained from the experimental work in Dorchester County indicate that there are possibilities of the establishment of seed areas in Maryland.

THE POLLUTION SITUATION IN AND ABOUT CUMBERLAND

FRED R. TRESSELT, *Stream Surveyor*

THE CITY OF CUMBERLAND is drained by two streams, the North Branch of the Potomac and Wills Creek. These streams unite within the city limits and both receive the trade wastes from the various enterprises located on or near their banks. The pollution is very evident and is aggravated by the low-water conditions at the present time. The Potomac River is said to contain no fish for a distance of forty miles. During the winter and spring months, when high waters render the pollution less concentrated, many fish are said to find their way into the polluted area from below, and when warm weather and low waters arrive they die in large numbers. This is claimed to be a yearly occurrence.

The sources of pollution in and about Cumberland are many, and the blame for the condition of the streams cannot be laid to any particular source or sources without a detailed investigation of the entire section. The following table presents the information as received:

POTOMAC RIVER

Source of Pollution	Polluting Material	Comparative Am't of Pollution	Probable Effect on Aquatic Life
West Virginia Pulp and Paper Co. at Luke, Md.	Trade waste	Very large	Very bad
Town of Piedmont	Town sewage	Small	Negligible
Town of Westernport	Town sewage	Small	Negligible
B. & O. R. R. at Keyser	Oil and grease	Small	Negligible
Celenese Mfg. Co.	Unknown	Small	Negligible
Kelly-Springfield Tire Co.	Unknown	Small	Negligible
Western Md. R. R. shops	Oil and grease	Small	Negligible
City of Cumberland	City sewage	Large	Bad when water is low
Footer's Dye Works	Chemicals	Large	Bad
Union Tannery at Pawpaw	Tannic acid	Large	Bad
B. &. O. R. R. at Cumberland	Oil and grease	Large	Bad
N. G. Taylor Co., Tinware	Acid	Small	Bad
B. & O. R. R. Tie-Dipping Plant	Creosote	Large	Very bad

WILLS CREEK

Queen City Brewing Co.	Unknown	Small	Negligible
Union Tannery at Cumberland	Tannic acid	Large	Bad
City of Cumberland	City sewage	Large	Bad during low water

NEW EDITION OF LAWS

The Conservation Department has just issued a new edition of Article 72, Code of Public General Laws, title "Oysters." This booklet contains the sections as they appear in Volume 2 of the 1924 Code and 1929 Supplement, and embraces all the laws in effect on oysters up to and including the Acts of 1929. It was compiled by H. H. Johnson, Chief Clerk.

STREAM AND FIELD

Restoring the Potomac River to its former pristine glory, as it was in the days when Grover Cleveland fished in it, is the fond aim of the Izaak Walton League. And with the aid of the State Conservation Commission, the U. S. Bureau of Fisheries, and the Board of Health, it is hopeful of accomplishing this ambition.

——o——

Back in those dear, dead days, the Potomac River, in the neighborhood of Big Pool and the Woodmont Rod and Gun Club preserve, was a veritable fisherman's Utopia. Bass, both big- and small-mouthed, lurked in the pellucid depths of the river, and gamey trout were to be had for the mere casting in the smaller tributary streams. The stretch of river from Hancock to Cumberland was Cleveland's prize fishing grounds, and the late President spent many happy hours fishing from a great rock near the Woodmont preserve. The rock, to this day, is known as "Cleveland's Rock", and there is also a chair in the club-house in which he and other Presidents sat. This chair bears Cleveland's name, and the names of other Presidents who reclined in it.

——o——

Today, this same stretch of river is virtually devoid of finny life and entirely barren of bass. Where once these great game-fish disported, now only a few despised rough fish swim. Pollution from the great factories lining the banks of the Potomac at Cumberland and Luke, and the creosote plant at Greensburg, is slowly but surely getting in its deadly work. Gradually, even the rough fish are being exterminated, and, if some action is not taken soon, the Potomac River, from Cumberland to Washington, will be as barren of life as the Dead Sea.

——o——

Due largely to the concerted efforts of the "Ikes," the aid of the State Health Department, U. S. Fisheries Bureau, and the State Conservation Commission has been enlisted to free the Potomac from pollution and to preserve it for fishermen of the future. Steps are now under way to eliminate much pouring of factory waste and sewage into the stream at Cumberland, and it is confidently believed that these efforts will be crowned with success.

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The question is not purely one of concern to fishermen alone. The question of the health of the people of Hagerstown and Washington County is also involved. This city derives its water supply from the Potomac River. If the stream is contaminated with factory waste and sewage from upstream, there is even a possibility that the health of the people of this community may eventually suffer. While this danger is remote, the modern filtration plant which the city has erected on the Potomac River, above Williamsport, being at present adequate to purify the water sufficiently to remove this danger, the city does not want to be placed in the same situation as Chicago, where the problem of obtaining reasonably pure water is daily growing more acute.

——o——

The support of the entire community should go to the "Ikes" in their laudable endeavor to free the Potomac from pollution and to preserve the great, historic stream for future generations.

——o——

The local "Ikes" sent a truck to the Lewistown hatchery, Friday, to get 30,000 four and one-half inch trout for distribution in county streams. The truck was furnished by the Wood Auto Service Company.

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More than 5,000 resident fishing licenses have been sold in Washington County for the year 1929, in addition to 170 non-resident licenses.

——o——

The local Walton League is sponsoring the rearing of approximately 10,000 trout at the Cushwa farm. These will be distributed when they have attained a size of from eight to 10 inches.—*Hagerstown Evening Globe.*

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IODINE CONTENT OF SEA FOOD TO BE STRESSED IN ADVERTISING

WHILE sea foods and green vegetables have long been known to contain considerable iodine, and their utilization by the people of the inland states to prevent goiter and reduce thyroid is somewhat on the increase, no concerted movement has ever been made by the Eastern Shore of Maryland to use this in advertising the products of this region.

The Conservation Commissioner, on October 30, spoke before the Rotary Club of Crisfield on this subject, and the following, which is taken from *The Oysterette*, published by the Rotary Club of Crisfield, indicates that the suggestion is meeting with enthusiastic response from this organization.

"Mr. Swepson Earle, Conservation Commissioner of Maryland, was a dinner guest of the local club last week. In his delightful speech he presented one of the most valuable suggestions that has ever been brought before the club, in the opinion of the writer; namely, the possibility of utilizing our local sea-food industry to advertise the Eastern Shore. Among the advantages of such a campaign the following may be enumerated:

1. It is sound advertising because it is based upon facts.
2. High iodine content of the local oyster makes it desirable food for the prevention of goiter.
3. The market-garden produce of this Eastern Shore has a high iodine content.
4. It will stimulate coöperation between the farmer and the sea-food producer, since they have a common interest.
5. It does not confine coöperation to a small local area.
6. Properly managed it will prove remunerative.
7. It is sound business.
8. Sea foods and green vegetables are non-fattening."

BARBECUE AT RICHEY SUMMER LODGE

MR. LAWRENCE RICHEY, Secretary to President Hoover, early this year purchased a tract of land belonging to the Catoctin Manor estate, where he has established a very delightful lodge, and at which he spent much time during the summer. Running through this tract is Fishing Creek, one of the cold tributary waters of Frederick County. Shortly after Mr. Richey decided to come to Maryland, in coöperation with the U. S. Bureau of Fisheries and the Conservation Department, he established nursery ponds on his place for the rearing of trout. Fortunately, this location is only a short distance from the State

Fish Hatchery at Lewistown, and the department was able to transfer about 25,000 trout to this nursery, where they grew rapidly during the summer months, having attained an average size of six inches by October.

Through the hospitality of the President's Secretary, a barbecue was held during the middle of October, and the members of the Izaak Walton League and other sporting organizations were invited to bring their families and fish cans, and many thousands of fish were given to those interested in stocking the streams of Frederick, Washington, and other counties of Western Maryland. Needless to say, hundreds of persons accepted the invitation and this public-spirited move on Mr. Richey's part is going to do much toward improving trout fishing in Western Maryland.

The nursery will be enlarged to take care of 50,000 trout and will be ready for the transfer of fish next spring.

TROUT DISTRIBUTION IN BALTIMORE COUNTY

A SHIPMENT of fifty cans of brown trout (about 5,000 fish), averaging in size from three to five inches, was sent from the State Fish Hatchery at Lewistown, on October 19, to Baltimore, for stocking certain streams in Baltimore County. The shipment was distributed by members of the Baltimore chapter of the Izaak Walton League, of which Mr. Harry A. Jackson is president. Several members of the Baltimore Casting Club and about ten Boy Scouts assisted. The fish were in fine condition when planted, and those who participated in the work were most enthusiastic about the size of the fish and predicted excellent sport in about two years as a result of this stocking.

Another shipment of twenty cans of brook trout and fifteen cans of brown trout was delivered from Lewistown station to the fish hatchery at Druid Hill Park, during the latter part of October, for a number of Baltimoreans who had made application for fish to stock streams in which they are interested in the vicinity of the city.

STATE TAKES TROUT EGGS

ACCORDING to A. M. Powell, Superintendent of the State Fish Hatchery at Lewistown, Frederick County, his division, for the first time in the history of the department's fish-cultural operations, took eggs from brook trout that were hatched and reared in the State. Eighty-six thousand eggs were taken from fish that were placed in the rearing ponds of the department's

station at Bear Creek, Garrett County, last fall, and 25,000 were taken from fish held in the ponds at Lewistown. The work of collecting the eggs is about half completed, and it is expected that the department will obtain approximately 300,000 eggs altogether from its own fish. This means a considerable saving in operation costs, as it will materially cut down the number of eggs which the department has had to buy each year from commercial hatcheries in other states.

As stated before, the trout which produced these eggs are a year old, and will be liberated next spring in order to make room for the young fish which will be placed in the rearing ponds. The old trout are about eight to twelve inches in length, and will assure the anglers of Western Maryland excellent sport when placed in the streams of that region.